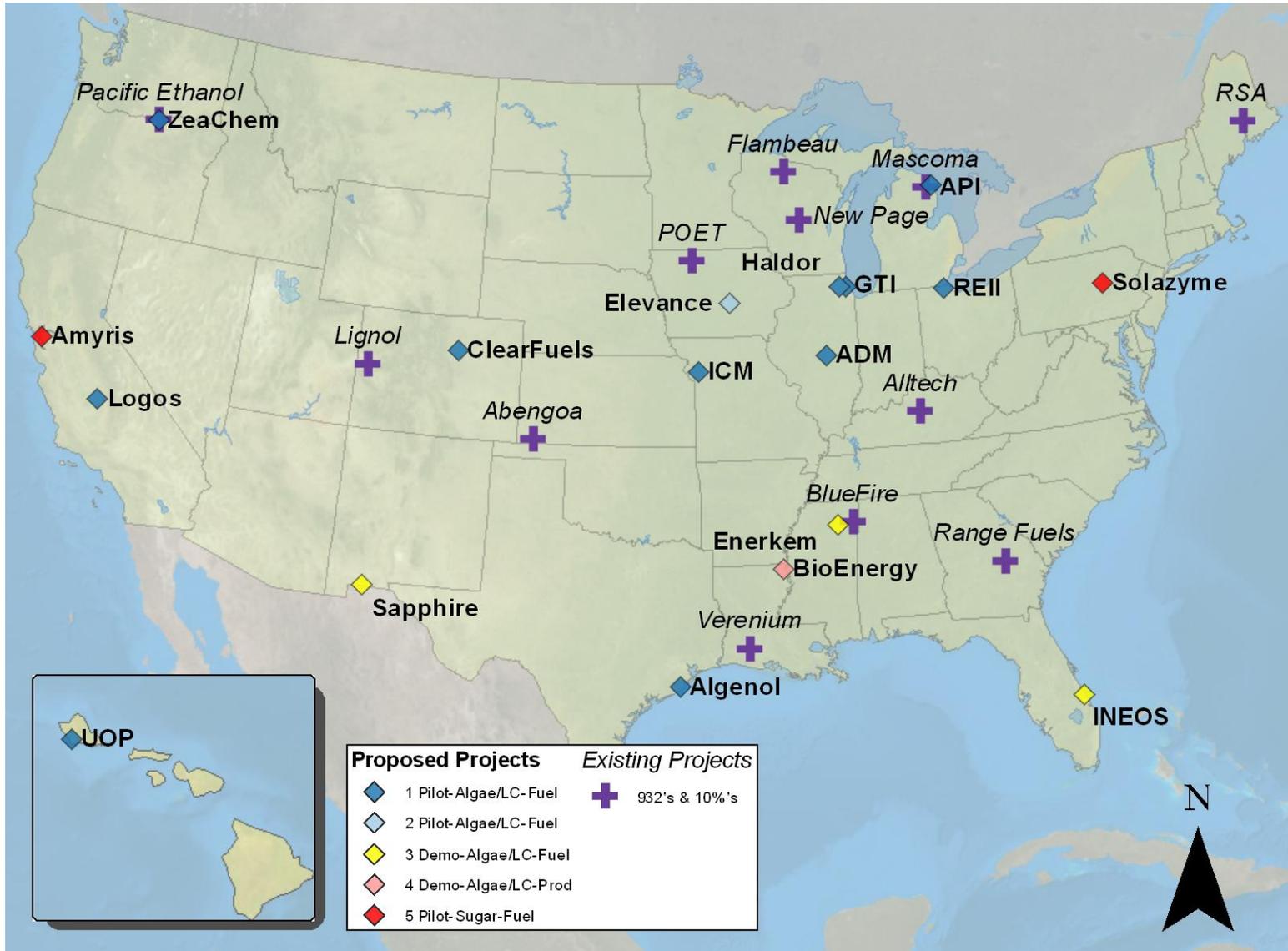


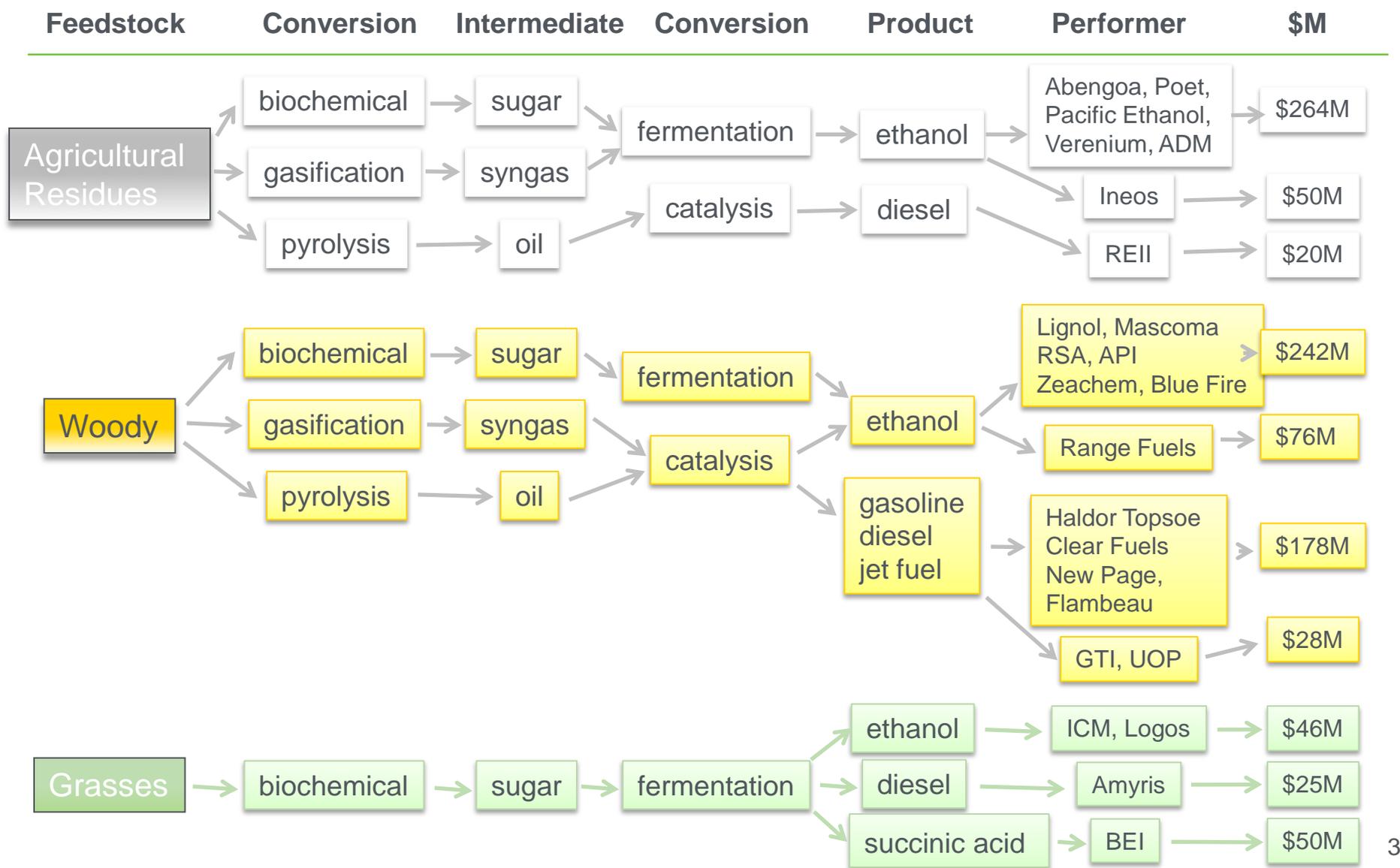
Melissa Klembara
DOE – Biomass Program
Integrated Biorefineries



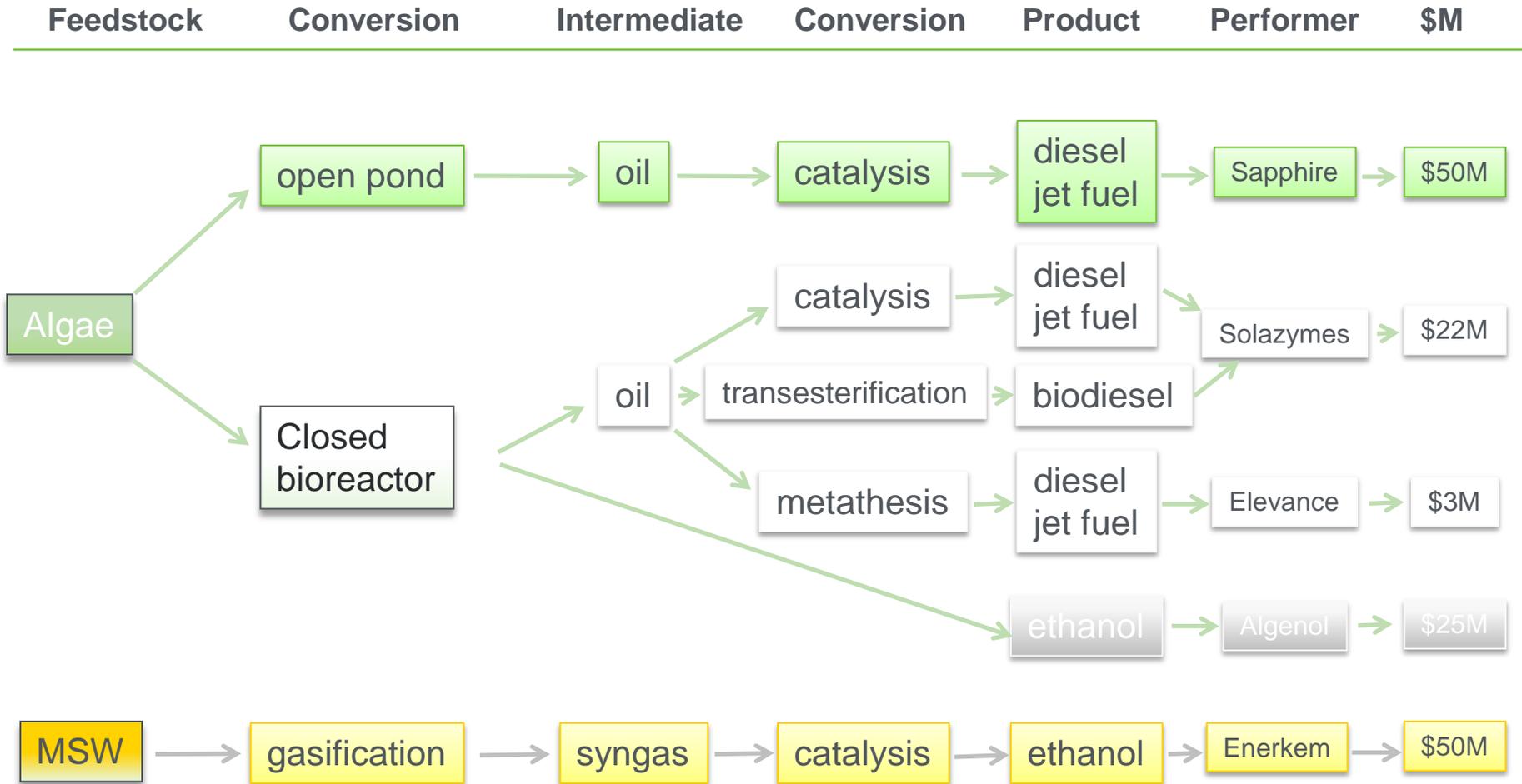
Current + ARRA IBR Projects – Geographical Diversity



Integrated Biorefineries



Integrated Biorefineries



“Commercial-Scale” Biorefineries

Selected in February 2007



Energy Efficiency & Renewable Energy

Performers	Location	DOE Award*	Feedstock Type	Conversion Technology	Fuel / Amount**	Status
Bluefire	Fulton, MS	\$87.6M	Sorted MSW Woody Biomass	Biochemical- Concentrated Acid Hydrolysis	19M gals ethanol/yr	Relocated site from CA to MS. An EA has commenced for NEPA to be completed by Q3 CY2010 in order to start construction.
Poet	Emmetsburg, IA	\$100M	Corn Cob	Biochemical	25M gals ethanol/yr, and cogen heat/power	Recently “field day” to highlight its feedstock commercialization effort with farmers and equipment manufacturers. Est construction start Q4 CY2010, if favorable LG decision.
Range Fuels	Soperton, GA	\$76.2M	Woody Biomass	Gasification + Mixed Alcohol synthesis	20M gals per yr split 50/50 with ethanol and methanol	Range Fuel’s USDA LG in negotiations. Initiated construction of first build-out (125 tpd) Dec 2007. Go/no go decision Q4 CY2010 on catalyst.
Abengoa	Hugoton, KS	\$100M	Agricultural Residues	Biochemical and Combustion	13-15 M gals ethanol/yr and 92 MW of green power	Record of Decision on EIS expect Q2 CY2010. Est construction start Q4 CY2010. if favorable LG decision.

*Award amounts still under negotiation, based on contingencies, and go/no go decisions
 **Amounts by fuel are based on estimates. Co-gen of steam/heat and power and not included.

Demonstration-Scale Biorefineries Selected in FY2008

Performers	Location	DOE Award*	Feedstock Type	Conversion Technology	Fuel / Amount **	Status
Alltech Envirofine	Washington County, KY	\$30M	Corn Cobs	Biochemical-Solid State Fermentation	1M gals ethanol/yr	DOE negotiating close out.
Lignol Innovations	Grand Junction, CO	\$30M	Woody Biomass	Biochemical-Organisolve	2.5M gals ethanol/yr	Decision on new partner and location expected Q2 CY2010.
Mascoma	Upper Peninsula, MI	\$32M	Woody Biomass	Biochemical – Consolidated Bioprocessing	20 M gals ethanol/yr & cogen of heat/power	Modifying and operating pilot plant. NEPA to be completed by Sept 2010. Est construction start Q4 CY 2010, if favorable DOE LG.
NewPage	Wisconsin Rapids, WI	\$40M	Woody Biomass	Thermochemical-Fischer-Tropsch	5.5M gals FT Liquids/yr	Piloting underway, cost shared with Flambeau. NEPA to be completed by September 2010 to start construction,
Pacific Ethanol	Boardman, OR	\$30M	Wheat Straw, Stover, Poplar Residuals	Biochemical-Biogasol	2.7M gals ethanol/yr	Parent company filed for reorg, but the LLC continues to work on project planning and R&D.
RSA	Old Town, ME	\$33.9M	Hemicellulose from Wood	Biochemical-Pentose Extraction	2.2M gals of Ethanol or Butanol	Bankruptcy then acquired by Patriarch Partners. NREL conducting technology validation.
Verenium Biofuels Corp.	Jennings, LA	\$14.9M	Energy Cane and Sugar Cane Bagasse	Biochemical Process	1.5M gals ethanol/yr	Facility built. Feedstock and operational testing ongoing.
Flambeau River Biofuels LLC	Park Falls, WI	up to \$80M	Woody Biomass	Thermochem to Fischer-Tropsch	9M gals FT Liquids/yr and 50M lbs of FT wax	Est construction start Q4 CY2010, if favorable LG decision.